

## **SECTION 2**

### **Education and Outreach Strategy**

#### **2.1 IDENTIFYING PROBLEMS**

##### **2.1.1 What Was Already Known**

What was actually known in the area of water quality education and outreach to the public is difficult to quantify. Based upon the watershed coordination team's observation of water quality education statewide, it could be assumed that the public stakeholders living and working in the watershed were very typical of Indiana residents with regard to their knowledge and understanding of water quality conditions and water quality protection practices. Simply speaking, it was assumed that education about surface and groundwater quality could stand to be dramatically improved in the watershed, as it could be throughout the State of Indiana.

It was already known that at least two bodies of water in the watershed were listed by the state as being "impaired". Impairment was caused in some cases by *E. coli* bacteria. Thorough and proper education of livestock owners as well as septic system owners is often a first step in addressing such issues. The fact that impairments exist for bacteria suggests that education remains an important first step in addressing existing water quality problems in the watershed as well as protecting water bodies from future pollution.

From a more positive perspective, it was also already known that several water quality education programs existed in Morgan County, including, but not limited to: The Morgan County Soil and Water Conservation District's water quality education programs for local students; the District's field programs that are provided at a 32-acre facility called Fallwood; water quality education programs provided at Bradford Woods, which is owned by Indiana University; school curriculum in both Monrovia and Martinsville that focus on

water quality; local Master Naturalist and Master Gardner programs; and support from the Riverwatch Program and other Indiana Department of Natural Resources programs. Compared to other counties, these efforts alone are quite remarkable and could serve as models for other counties to follow. On the other hand, it was clear that these programs were in some cases restrictive and in most cases in desperate need of funding for equipment and human resources.

##### **2.1.2 What Was Learned During the Process**

The Watershed Initiative maintained an Education and Outreach Committee throughout the two-year study period. Sitting on the committee were professional educators from Bradford Woods, Monrovia schools, and the Soil and Water Conservation District. What was learned and/or confirmed was that there does indeed remain a lack of understanding regarding what the water quality conditions are, how our activities impact water quality, how we can protect water quality, and how we can improve water quality.

Additionally, interaction at 8 publicly-noticed stakeholder meetings, over 50 committee meetings that were open to the public, and one full week of personal interaction with visitors to the Morgan County Fair all confirmed that there is a lack of understanding about water quality concerns in the county and more importantly, a need for educating residents, farmers, industry leaders, community leaders, commercial property owners, forested landowners, and developers about effective ways to protect water quality.

Roughly 60% of the watershed is forested, and the northern reaches are dominated by agricultural land experiencing above average rates of population growth, which can be attributed to urban sprawl from the Indianapolis area. Education is needed now to help forest owners understand the water quality protective value of their forested land; to help planners, politicians, and

developers to understand the impacts of unmanaged growth and increased impervious surfaces; to help farmers and livestock producers better understand appropriate management practices; and to provide general public education to both adults and students about water quality and the resources that require protection in Morgan County. Many of these subject-specific needs are covered in more detail in other sections of the Plan.

The SWCD currently employs a Conservation Educator, Bill Brenneman. Mr. Brenneman works with schools and other entities, providing knowledge about watershed protection. As part of the Watershed Initiative's (prior 319-funded) strategic plan, the Education and Outreach Committee listed Mr. Brenneman's program as an area worth expanding/enhancing. Much of this enhancement would come through grant-funded resources needed by the district to more effectively educate students and adults alike.

### **2.1.3 Causes or Probable Causes of Impairments or Threats to Water Quality**

Indications from the Education and Outreach Committee as well as other stakeholder participation suggest that the ultimate causes of a lack of understanding of water quality issues include the following:

- Education programs are too narrowly targeted to school-aged children, and in some cases only to those children enrolled in certain classes.
- There is a lack of funding needed to:
  - reach a larger audience.
  - purchase equipment to help teach the public about water quality conditions and water quality protection.
  - hire personnel to teach the public about water quality condition .
- There is an inherent lack of interest among the public to learn about or act on water quality issues when there is a perception that such issues

do not directly nor immediately affect them in a negative manner. This is often the result of busy lifestyles.

- The amount of coverage of such issues in media sources, such as television, radio, newspaper could be increased.

### **2.1.4 Sources or Probable Sources of Pollutants or Conditions Causing Water Quality Impairments**

Specific sources of pollutants are more directly discussed in other Sections of this Watershed Management Plan. Generally speaking, sources include: failing septic systems; livestock in streams; urban runoff from impervious surface areas; sediment from streambank erosion and cropland erosion; pesticides and herbicides from over-application and runoff from some farms and residential lawns; open dumps; and poor vehicle maintenance.

Public education is a fundamental first step for addressing all of the above water quality management issues. As they continue to develop, education programs should be individually tailored to each of the subject areas and their respective audiences.

### **2.1.5 Prioritization**

From a geographical perspective, the Education and Outreach Committee prioritized the City of Martinsville, the Town of Monrovia, Fallwood Enterprises, and Bradford Woods as primary venues for education programs. Education is needed throughout the watershed; however, the bulk of the watershed population, schools, businesses, and public meeting places are all consolidated in these two municipalities. Outdoor classroom venues have been targeted to continue at Fallwood (east of Martinsville) and at Bradford Woods in the Sycamore Creek subwatershed.

Prioritization by subject matter was addressed among other committees. General water quality education was a priority for the Education and Outreach Committee,

while specific programmatic education such as septic system management and livestock best management practices are addressed in other sections of this document.

## **2.2 GOALS AND DECISIONS**

### **2.2.1 Goals for Improvement and Protection:**

Primary Goal #4 of this Watershed Management Plan, as outlined in Section 1 of this document is, “to the greatest extent possible and with existing and potential resources, improve and protect water quality in the watershed with the intention, where applicable and appropriate, to achieve and maintain state water quality standards.” In order to achieve Primary Goal #4 of this Watershed Management Plan, the following objectives related to education and outreach have been established by the Watershed Initiative Education and Outreach Committee:

#### **Objective #2-1:**

Increase and link water quality education efforts among Morgan County elementary and high school age students.

#### **Objective #2-2:**

Educate adults through newsletters, presentations, river cleanups, events, and other means about the importance of and practices necessary for water quality protection.

#### **Objective #2-3:**

Increase public knowledge and awareness of government and private sector programs that are designed to help protect water quality through better agriculture and forest management and protection measures.

Figure 2.1: Public display of Watershed Initiative at Morgan County Fair, 2002.



Figure 2.2: Public information display at one of eight quarterly “Stakeholders Meetings”



Figure 2.3: Local watershed stakeholders participating in educational field studies at Bradford Woods



Figure 2.4: local children visiting Fallwood and learning about watershed management along the "Activity Trail"



### 2.2.2 Management Measures

In order to help achieve the goals of the Watershed Initiative, a communication source was developed for familiarity and consistency of delivering the messages of water quality education. The source is a mascot, named "Morgan the Turtle".

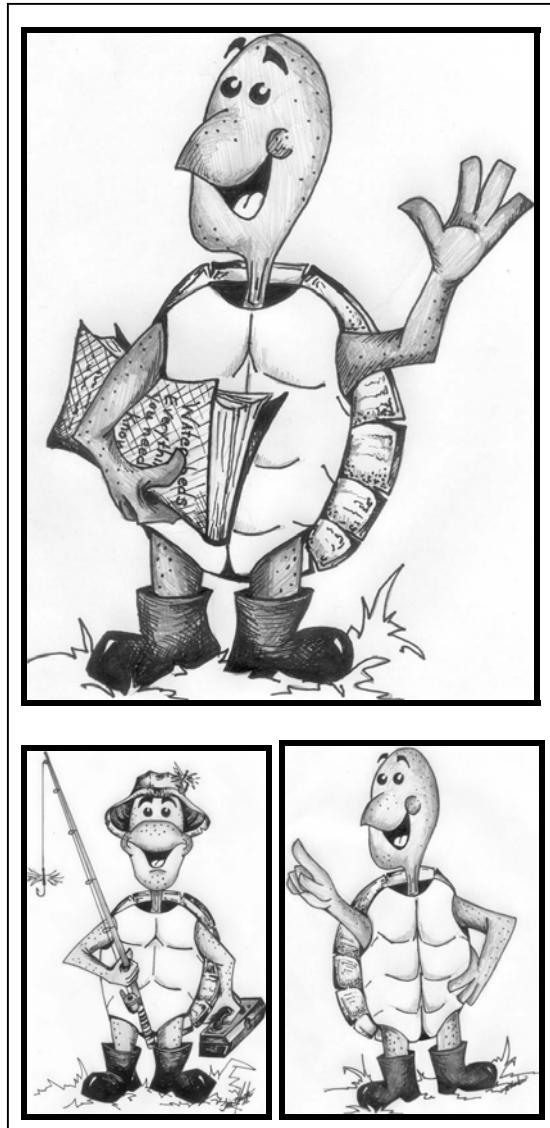
The concept of Morgan the Turtle was created by the Education and Outreach Committee and collectively approved by the Steering Committee and the Soil and Water Conservation District Board of Supervisors.

Artwork for Morgan the Turtle was provided by Tim Martin, while working for a local, participating corporate stakeholder, Pike Lumber Company, Inc.

Morgan the Turtle was "introduced" to the public at a quarterly stakeholders meeting in November 2001. Following that meeting, Morgan was then introduced in December in the Martinsville and Mooresville newspapers with an article explaining Morgan's role in the community and that there would be periodic "Dear Abby" type of reader question and answer columns. A few months after Morgan's introduction, the Education and Outreach Committee produced magnets and tee shirts depicting Morgan the Turtle on the front, and sponsor stakeholders on the back. The tee shirts are sold at public meetings, and revenues from the tee shirt sales are set aside for education projects such as refrigerator magnets, etc.

Morgan the Turtle has been established as Morgan County's voice for water quality education. In addition to its current role, this mascot should be utilized for municipal and county requirements under NPDES Storm Water Phase 2 (Rule 13) for public education and outreach.

Figure 2.3: Various poses of "Morgan the Turtle." Artwork courtesy of Tim Martin



Other measures utilized for achieving public awareness during the initial study timeframe included 8 quarterly public stakeholder meetings, the production and delivery of quarterly newsletters for the Initiative, guest

speaker visits at the local Kiwanis Club and similar associations, and press releases and interviews to the local newspaper. In addition to the newsletters, several newspapers printed periodic articles and public notices on behalf of the Initiative. These articles, along with the newsletters, are included in Appendix A of this document, Public Education and Outreach Record.

### **2.2.3 Loads or Contributions for the Management Measures**

While the ultimate intent of education and outreach efforts is to reduce the pollution load to receiving waters, it is not possible to calculate what reductions will occur as a result of education and outreach. Therefore, no such calculations have been made.

### **2.2.4 Action Plan**

The Education and Outreach Committee developed an Action Plan over the course of several meetings. The action plan was summarized into a simple table, which is included at the end of this section. The action plan has been adopted by the Watershed Initiative Steering Committee and the Morgan County Soil and Water Conservation District Board of Supervisors. Due to the number of detailed activities listed in the table, only the primary actions that support those activities are provided in this text. However, the table of activities should be considered the "Action Plan".

#### ***Action 2-1***

Purchase a laptop computer, projector, and associated needs for SWCD and Watershed Initiative watershed education presentations.

#### ***Action 2-2***

As identified in the Education/Outreach strategic plan, contract with a graphics design firm to design and print a 2004 calendar. The development of the calendar will utilize local photographs of local streams and other natural scenes and water quality educational language produced by the District and the Watershed Education and Outreach Committee.

#### ***Action 2-3***

Pay a semi-annual user fee to Fallwood Enterprises where over 1000 children will visit and be educated about watershed protection each year. Coordinate and manage educational outings on a to-be-scheduled basis throughout the two year grant cycle. The program has been developed and utilized with great success by the district, but will not be able to continue without funds to support maintenance of the facility.

#### ***Action 2-4***

Hire a contract employee who will provide specific education services to residents, farmers, forested landowners, and other stakeholders about BMPs and funding programs, etc. This individual will also be the point of contact and assist with coordinating the many detailed activities discussed in the Action Plan at the end of this section.

#### ***Action 2-5***

Implement a storm drain stenciling or placarding program for any and all storm sewer inlets in the watershed. Local sewer managers should establish new specifications for cast iron storm drain covers and gratings to be molded with permanent waters quality messages, such as "DO NOT DUMP – DRAINS TO STREAM".

### **2.2.5 Resources**

Resources available or needed for achieving education and outreach goals are divided into human resources, facility resources, and funding resources:

#### **2.2.5.1 Human Resources**

Currently, the Soil and Water Conservation District staff and voluntary Supervisors are available for participation and direction of the many education and outreach activities. Additionally, the Watershed Initiative Education and Outreach Committee, a strictly voluntary group of stakeholders who have been meeting for 2 years and developed the education and action strategy,

have committed themselves to remain available participants in watershed education and to assist and help direct many of these activities. Most of these committee members are professional educators, and all have indicated a willingness to provide themselves as part of a speakers bureau to help perpetuate the water quality message to the public. Resources purchased by the SWCD for public education, such as computer equipment, will be used by both SWCD staff and Watershed Initiative volunteers for public education and outreach efforts.

#### **2.2.5.2 Facility Resources:**

A primary venue for educating local children and other stakeholders is the Fallwood Enterprises facility. Fallwood is currently used by the SWCD several times each year by the District to provide hands-on field experience and on-site instruction about watershed management, water quality, aquatic biology, wetlands, native plants, and general ecology. This 32-acre, outdoor facility has been designed and developed for educational instruction, and is located a few miles east of the SWCD office. In order to continue to provide field education services free to the public, it will become necessary for the SWCD to begin paying semiannual user fees for upkeep, maintenance, and insurance of the facility.

A second field education facility is Bradford Woods. Bradford Woods is owned and operated by the Indiana University Board of Trustees. Throughout the term of this watershed study, Bradford Woods and the facility's environmental educator have provided meeting facilities for the watershed initiative, offered field venues for biological studies, and planned a stream cleanup in collaboration with the Watershed Initiative. Bradford Woods is an excellent venue for environmental education. However, the property is utilized for many other purposes, and fee payments and special arrangements must be made through Indiana University to utilize the property.

Local facilities in the Martinsville and Monrovia area have been available throughout this study and continue to be available for meeting venues and other purposes. These include: the SWCD office; AES/IPALCO Lodge at Pritchard Park; Mapletown Utilities office; local schools, the County Administration Building; local churches, and other similar venues.

#### **2.2.5.3 Funding Resources**

In order to achieve the many goals and objectives of the Education and Outreach component of this Watershed Initiative, the acquisition of funding will be necessary.

Funding will be necessary for equipment, staff, and many overhead costs. Funding resources that will be pursued (see Section 10 for funding for specific actions) will include: Section 319 watershed management funding from US EPA through IDEM; similar programs such as Section 104(b)(3) and Section 205(j) funding; Lake and River Enhancement (LARE); awards from local utilities such as AES and REMCs; and private donations.

#### **2.2.6 Legal Matters:**

The nature of education and outreach programs does not necessitate needs for permits such as those associated with construction projects or water discharge practices. However, there are some issues that should be considered and thoroughly addressed with regard to the education and outreach program for the Watershed Initiative.

Most notably of the legal matters is that of liability for safety and the associated need for liability insurance. In the case of all current and proposed education programs (such as the continued use of Fallwood), liability insurance either has been or will be provided wherever necessary and/or required.

## **2.3 MEASURING PROGRESS**

### **2.3.1 Indicators Selected to Determine Progress**

Periodically, the SWCD and/or the participants in the Watershed Initiative will have to measure the progress of education and outreach in a quantifiable manner. To do so, the Initiative will utilize existing resources to:

- Develop surveys for target audiences that allow the educational program provider the ability to track the understanding and appreciation of water quality issues both before and after such programs are provided.
- Periodically survey the general public to ascertain the public's knowledge of water quality conditions and water quality protection practices. Survey results will be compared from each time of survey in order to conclude whether or not a trend toward increased knowledge and awareness has been established.

### **2.3.2 Re-Evaluation of Plan**

The Morgan County Soil and Water Conservation District will be responsible for the regular review and update of this Watershed Management Plan. This Plan should be evaluated on an annual basis to document and celebrate progress; assess effectiveness of efforts; modify activities, if needed, to better target water quality issues; and keep implementation of the Plan on track. The Plan should be revised as needed to better meet the needs of the watershed stakeholders and meet water quality goals.

A summary of the actions proposed for this plan and a detailed list of potential funding sources can be found in Section 10 of this document.



## Morgan County Watershed Initiative - Education/Outreach Strategic Plan

Activity	Target Audience	Message	Time Commitment High, Med, Low (H, M, L)	Costs H, M, L	Overall Value/ Effectiveness H, M, L	Required by IDEM Contract? Y, N	Selected to Do Now, before May 10, 2003	Selected to Do in Watershed Action Plan, <u>After May 10, 2003 (Future)</u>	Target Activity Date or Completion Date
Newspaper Articles	General Public – Adult	Update/ informative info	L-M	L	H	YES	YES	YES	Monthly Ongoing-
Quarterly Ed. Mailing (Newsletter)	Targeted Mailing List	Updates /Info	M-H	L	L-M	YES	YES	YES	Quarterly (Newsletters)
Brochure	General Public-Adults	Introduction & basic info	L	L	H	NO	YES	YES	COMPLETE
Field Days or Workshops on progress/planning	Various Targets – developers	Direct Education	H	H	M	NO	NO	YES	2004
Storm Drain Stenciling Program for entire watershed	Residential /commercial public	Don't Dump in sewer drain	M	M	M	NO	NO	YES (must do watershed-wide if 319 funded)	2004
Mascot character	Public – Children	Exposure & Education	H	M	H	NO	YES	YES (add costume)	ONGOING
Dear Abbe-type news column	Public – young adult	Specific subject education	M	L	H	NO	YES	YES	ONGOING
Educational restaurant place mats	Restaurant patrons – children	General water education	H	H	L	NO	NO	NO	-----
Tee Shirts	General Public	Recognition	L	H	H	NO	YES	YES-Continue	May 2002



Activity	Target Audience	Message	Time Commitment High, Med, Low (H, M, L)	<u>Costs</u> H,M,L	Overall Value/ Effectiveness H, M, L	Required by IDEM Contract? Y, N	Selected to Do Now, before May 10, 2003	Selected to Do in Watershed Action Plan, <u>After May 10, 2003 (Future)</u>	Target Activity Date or Completion Date
Public Signs, Billboards	General Public	Education	H	H	L	NO	NO	NO	---
Stream Cleanups	Teens through adult	Ownership, appreciation & education	H	L	M	NO	YES	MAYBE (based upon how 2002 effort works)	<b>Spring 2003</b>
Web Site	General Public	Exposure & Education	H	H	H	NO (but is in sub-contract)	YES	YES	<b>Fall 2002</b>
Trinkets – water bottles (no), bookmarks, magnets, etc.	Household	Exposure & Education	M	M	M	NO	YES	YES	<b>Summer 2002 (July Fair)</b>
County Fair	Fairgoers General Public	Exposure & General Education	H	M	L	NO	YES (piggyback w/ SWCD)	?	<b>Summer 2002 (July Fair)</b>
School visits – elementary	Children	Education	H	L	H	NO	YES (work with Bill B. @ SWCD)	?	<b>Fall 2002</b>
School programs – High School	Teenagers	Education	H	L	M	NO	NO	MAYBE	2003
Science contest Judging	Elementary age children	Education and Initiative	H	L	M	NO	NO (consider special award to <u>existing</u> programs)	NO (Needs to be part of curriculum)	<b>March 2003 (for award)</b>

Activity	Target Audience	Message	Time Commitment High, Med, Low (H, M, L)	<u>Costs</u> H, M, L	Overall Value/ Effectiveness H, M, L	Required by IDEM Contract? Y, N	Selected to Do Now, before May 10, 2003	Selected to Do in Watershed Action Plan, <u>After May 10, 2003 (Future)</u>	Target Activity Date or Completion Date
Piggyback events						NO	Keep open – depends on event		
Public Service Announcements	General Public – Adult	Education – subject specific?	L	L	L-M	NO	YES For specific projects	YES	ONGOING Depends upon situation
Shopping Mall displays	Teens, Adults	Exposure & Education	H	H	L	NO	NO	NO	---
Scouts	Use as Tool/vehicle for other efforts	Stream Cleanups, etc.	L	L	H	NO	YES	?	<b>Summer 2003</b>
Tours	Teens or Adults	Ownership, exposure, education	M	L	M	NO	NO	MAYBE	2004
Chris Parker's Newsletter (add in articles?)									
Speakers' Bureau / begin targeted presentations	Conservation Clubs, Kiwanas, others (Adult)	Exposure and Education	L	H	H	NO	YES	YES	<b>Summer/Fall 2002</b>
Calendar	General Public	Exposure and Education	M	H	H	NO	NO	YES	Fall 2003

